Title: Procedural generation of human skin structure

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Abstract: Human skin is a very complex and diverse organ that differs not only among different people and races, but also in the scope of one specific human body. In this thesis we tested several procedural approaches to generate texture suitable for surfaces of 3D models of various parts of human skin. Besides cellular structures using Voronoi diagrams or Delaunay triangulation, we also investigate generation of the structure of human fingerprints based on the SFinGe method, used for creating synthetic fingerprints for fingerprint recognition algorithms in criminology. We conclude that human skin is so diverse that multiple different approaches are needed and each of them is suitable only for some regions.

Keywords: computer graphics, procedural modeling, human skin